Claims

1. Method for increasing plant yield relative to corresponding wild type plants, comprising introducing into a plant a nucleic acid encoding a D-type Cyclin Dependent Kinase (CDKD).

2. Method according to claim 1, wherein said increased yield is increased seed yield.

3. Method according to claim 1 or 2, wherein said increased yield is selected from the group consisting of (i) increased biomass of one or more parts of a plant; (ii) increased seed biomass; (iii) increased number of (filled) seeds; (iv) increased seed size; (v) increased seed volume; (vi) increased harvest index; and (vii) increased thousand kernel weight (TKW).

4. Method according to any one of claims 1 to 3, wherein said nucleic acid encodes a CDKD or a functional variant thereof and wherein said nucleic acid is obtained from a plant.

5. Method according to any one of claims 1 to 4, wherein said nucleic acid encoding a CDKD is represented by SEQ ID NO: 1 or is a functional variant thereof and wherein the CDKD polypeptide is represented by SEQ ID NO: 2 or is a functional variant thereof, which functional variant is selected from the group consisting of:
   (i) Portions of a nucleic acid represented by the sequence of SEQ ID NO: 1;
   (ii) Sequences capable of hybridising to a nucleic acid represented by the sequence of SEQ ID NO: 1;
   (iii) Alternative splice variants of a nucleic acid represented by the sequence of SEQ ID NO: 1;
   (iv) Allelic variants of a nucleic acid represented by the sequence of SEQ ID NO: 1; and
   (v) Homologues, derivatives and active fragments of an amino acid represented by the sequence of SEQ ID NO: 2.

6. Method according to any one of claims 1 to 5, wherein said nucleic acid sequence encoding a CDKD is overexpressed in a plant.

7. Method according to any one of claims 1 to 6, wherein expression of said nucleic acid encoding a CDKD is driven by a constitutive promoter.

8. Method for the production of a transgenic plant having increased yield, which method comprises:

(i) introducing into a plant or plant cell a CDKD-encoding nucleic acid or a functional variant thereof

(ii) cultivating the plant cell under conditions promoting regeneration and mature plant growth.

9. Method according to claim 8, wherein said increased yield is increased seed yield.

10. Method for increasing plant yield, especially seed yield, comprising introducing a genetic modification into a plant in the locus of a gene encoding a CDKD polypeptide or a functional variant thereof.

11. Method according to claim 10, wherein said genetic modification is effected by one of: site-directed mutagenesis, homologous recombination, tilling and T-DNA activation.

12. Plants obtainable by a method according to any of claims 1 to 11.

13. Construct comprising:

(i) a CDKD-encoding nucleic acid or a functional variant thereof;

(ii) one or more control sequence capable of driving expression of the nucleic acid sequence of (i); and optionally

(iii) a transcription termination sequence.

14. Construct according to claim 13, wherein said control sequence is a constitutive promoter.

15. Plant transformed with a construct according to claim 13 or 14.

16. Transgenic plant having increased yield, characterised in that said plant comprises an isolated nucleic acid encoding a CDKD or a functional variant thereof.

17. Transgenic plant according to claim 12, 15 or 16, wherein said plant is a monocotyledonous plant, such as sugar cane or wherein said plant is a cereal, such as rice, maize, wheat, barley, millet, rye, sorghum or oats.

18. Harvestable parts of a plant according to any one of claims 12 or 15 to 17.

19. Use of an isolated nucleic acid encoding a CDKD or a functional variant thereof in increasing yield, especially seed yield.

20. Use according to claim 19, wherein said seed yield includes one or more of the following: increased number of filled seeds, increased seed weight, increased harvest index and increased TKW.

21. Use according to claim 19 or 20, wherein said CDKD is a nucleic acid as represented by SEQ ID NO: 1 or a functional variant thereof, or wherein said CDKD is an amino acid as represented by SEQ ID NO: 2 or a functional variant thereof.